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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,659	09/27/2000	Roger Green Stewart	03424.P028	5955

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James C Scheller Jr  
Blakely Sokoloff Taylor & Zafman LLP  
Seventh Floor  
12400 Wilshire Boulevard  
Los Angeles, CA 90025-1026

EXAMINER

KUMAR, SRILAKSHMI K

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/671,659

**Applicant(s)**

STEWART ET AL.

**Examiner**

Srilakshmi K. Kumar

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-83 is/are pending in the application.
- 4a) Of the above claim(s) 1-41 and 60-83 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 45-51 is/are allowed.
- 6) ☒ Claim(s) 42-44, 52-59w is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

The following office action is in response to the Amendment B, filed May 13, 2004. Claims 1-83 are pending with claims 1-41 and 60-83 withdrawn from consideration. No claims have been amended or cancelled. No new claims have been added.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 42-45, 47-52 and 54-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung et al (US 6,262,594).

As to independent claim 42, Cheung et al disclose an integrated circuit device comprising; a substrate which includes an integrated circuit (col. 1, lines 6-34); a plurality of functionally symmetric interface pads coupling said IC to a receptor site of an electronic device (Fig. 1, col. 2, lines 9-26), said plurality of interface pads being arranged in said substrate such that said electronic device operates with said substrate such that said electronic device operates with said substrate mounted to the receptor site in any one of a plurality of orientations relative to said receptor site (col. 2, lines 9-48), wherein said plurality of interface pads comprises; a reference voltage pad for receiving a referencing voltage signal; a power supply pad for receiving a power supply signal;

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Cheung et al does not disclose a reference voltage pad for receiving a reference voltage signal, but it would have been obvious to one of ordinary skill in the art that integrated circuits are known in the art to have a reference voltage pad as it is required in order to operate the integrated circuit.

at least four output pads (Fig. 2, I/O pads as shown); a first configurable pad which is configurable as one of at least two of the following; an input pad or an output pad or a no operation pad (Fig. 2, col. 2, lines 27-38); a second configurable pad which is configurable as one of at least two of the following; an input pad or an output pad or a no operation pad (Fig. 2, col. 2, lines 27-38).

As to independent claim 52, limitations of claim 42, and further comprising, wherein the integrated circuit includes attached to said opening in said receptor substrate, said IC having electrical interface pads on a substantially planar surface which is substantially coplanar with said substantially planar region (Fig. 1a).

As to independent claim 56, an integrated circuit (IC) comprising; an instruction data logic coupled to an electrical interface pad, said instruction data logic receiving instruction commands to cause said IC to perform a particular function depending on a received instruction command (col. 2, lines 27-48 and col. 3, lines 10-55); a clocked logic circuit coupled to said electrical interface pad, said clocked logic circuit receiving a clock signal through said electrical interface pad which also provides said instruction commands to said IC. Cheung et al disclose a clock signal in col. 6, lines 61-64. It would have been obvious to one of ordinary skill in the art that clock signal would control a logic circuit as Cheung et al disclose functional modules in col. 6 lines 61-64, which receive the clocked signal, would have been logic circuits.

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As to dependent claim 43, limitations of claim 1, and further comprising, wherein said plurality of interface pads further comprise; a clock pad for receiving a clock signal for controlling clocked operations of said IC (col. 6, lines 61-64); a third configurable pad which is configurable as one of at least two of the following; an input pad or an output pad or a no operation pad (Fig. 2, col. 2, lines 27-38); a fourth configurable pad which is configurable as one of at least two of the following; an input pad, or an output pad or a no operation pad (Fig. 2, col. 2, lines 27-38); four position indicator pads (Fig. 2).

As to dependent claim 44, limitations of claim 43, and further comprising, wherein said plurality of interface pads comprise up to 25 pads arranged in an array up to 5x5 and wherein there are four reference voltage pads and four power supply pads and eight output pads. Cheung et al disclose in col. 1, lines 55-57 a 3x3 array. It would have been obvious to one of ordinary skill in the art that Cheung et al would be able to be modified to be a larger array as it would be advantageous for implementing larger displays.

As to dependent claims 54, limitations of claims 52, and further comprising, wherein said first function is a sensing function and said second function is a presentation function (col. 2, lines 27-63).

As to dependent claim 55, limitations of claim 52, and further comprising, wherein said IC is capable of performing both said first function and said second function substantially concurrently (col. 2, lines 27-63).

As to dependent claims 57-58, see limitations of claims 42, 45, 52 and 56.

3. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung et al as applied to claims 45 and 52 above, and further in view of Smith et al (US 5,824,186).

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As to dependent claim 53, limitations of claim 52, and further comprising, wherein said IC is attached to said receptor substrate through a fluidic self assembly process, and wherein said first set and said second set of interface pads overlap at least partially. Cheung et al do not disclose where the IC is attached to the receptor substrate through a fluidic self assembly process. Smith et al disclose in col. 3, lines 17-32 for attaching IC to the substrate through a fluidic self assembly process. It would have been obvious to one of ordinary skill in the art to incorporate this assembly technique of Smith et al into that of Cheung et al as this method of assembly is compact, low cost, efficient, reliable and requires little maintenance as disclosed by Smith et al in col. 3, lines 11-14.

***Allowable Subject Matter***

4. Claims 45-51 are allowed.
5. The following is an examiner's statement of reasons for allowance:

In regards to independent claim 45, the prior art, Cheung does not disclose a selector logic circuit that is coupled to receive signal from the conductive layer through the at least one interface pad to cause the selector logic to select between the first function and the second function.

Claims 46-51 are allowed as they depend upon allowed independent claim 45.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

*Response to Arguments*

6. Applicant's arguments filed May 13, 2004 have been fully considered but they are not persuasive.

In regards to claims 42-44, applicant suggests on pages 21 and 22 of response that Cheung does not disclose the limitation of “ a plurality of functionally symmetric interface pads coupling said IC to a receptor site of an electronic device, said plurality of interface pads being arranged in said substrate that said electronic device operates with said substrate mounted to the receptor site in any one of a plurality of orientations relative to said receptor site...”, more specifically, “in any one of a plurality of orientations relative to said receptor site”. The claim language of “in any one of a plurality” suggests that any one of the orientations can be shown by the prior art as is shown by Cheung. Thus, the limitation is shown to have been met by the prior art Cheung, therefore, the rejection is maintained.

In regards to claims 45-51, Applicant suggests the prior art Cheung does not disclose a selector logic circuit that is coupled to receive signal from the conductive layer through the at least one interface pad to cause the selector logic to select between the first function and the second function. Arguments are persuasive, thus as shown above, these claims have been allowed.

In regards to claims 52-55, Applicant suggests the prior art Cheung does not disclose wherein the IC is shown to have electrical interface pads on a substantially planar surface, this is clearly shown in Fig. 1a; thus, the rejection is maintained.

In regards claims 56-59, Applicant suggests the prior art Cheung does not disclose instruction data logic to the interface pad. Cheung in col. 3, teaches control signals and further,

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in col. 14, lines 45-64, describes signals from functional modules for instructing signals and clock signals. Therefore, the rejection is maintained.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srilakshmi K. Kumar whose telephone number is 703 306 5575. The examiner can normally be reached on 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, xxxx xxxx can be reached on xxx xxx xxxx. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.




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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Srilakshmi K. Kumar  
Examiner  
Art Unit 2675

SKK  
October 29, 2004

  
DENNIS-DOON CHOW  
PRIMARY EXAMINER